

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

REC'D 28 FEB 2005

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Applicant's or agent's file reference 12545090	FOR FURTHER ACTION	See Form PCT/IPEA/416
International application No. PCT/AU2004/001735	International filing date (<i>day/month/year</i>) 9 December 2004	Priority date (<i>day/month/year</i>) 9 December 2003
International Patent Classification (IPC) or national classification and IPC Int. Cl. G11C 11/34 (2006.01) G11B 9/14 (2006.01)		
Applicant WRIOTA PTY LTD et al		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 5 sheets, including this cover sheet.
3. This report is also accompanied by ANNEXES, comprising:
 - a. ☐ (*sent to the applicant and to the International Bureau*) a total of sheets, as follows:
 - ☐ sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).
 - ☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.
 - b. ☐ (*sent to the International Bureau only*) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or table related thereto, in electronic form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:

<input checked="" type="checkbox"/>	Box No. I	Basis of the report
<input type="checkbox"/>	Box No. II	Priority
<input type="checkbox"/>	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
<input type="checkbox"/>	Box No. IV	Lack of unity of invention
<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
<input type="checkbox"/>	Box No. VI	Certain documents cited
<input type="checkbox"/>	Box No. VII	Certain defects in the international application
<input checked="" type="checkbox"/>	Box No. VIII	Certain observations on the international application

Date of submission of the demand 6 September 2005	Date of completion of this report 17 February 2006
Name and mailing address of the IPEA/AU AUSTRALIAN PATENT OFFICE PO BOX 200, WODEN ACT 2606, AUSTRALIA E-mail address: pct@ipaaustralia.gov.au Facsimile No. (02) 6285 3929	Authorized Officer S KAUL Telephone No. (02) 6283 2182

Box No. I Basis of the report1. With regard to the **language**, this report is based on:☒ The international application in the language in which it was filed☐ A translation of the international application into _____, which is the language of a translation furnished for the purposes of:☐ international search (under Rules 12.3(a) and 23.1 (b))☐ publication of the international application (under Rule 12.4(a))☐ international preliminary examination (Rules 55.2(a) and/or 55.3(a))2. With regard to the **elements** of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):☐ the international application as originally filed/furnished☒ the description:pages **1-20** as originally filed/furnished

pages* received by this Authority on _____ with the letter of

pages* received by this Authority on _____ with the letter of

☒ the claims:

pages _____ as originally filed/furnished

pages* **27-33** as amended (together with any statement) under Article 19

pages* received by this Authority on _____ with the letter of

pages* received by this Authority on _____ with the letter of

☒ the drawings:pages **1/8-8/8** as originally filed/furnished

pages* received by this Authority on _____ with the letter of

pages* received by this Authority on _____ with the letter of

☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing.3. ☐ The amendments have resulted in the cancellation of:☐ the description, pages☐ the claims, Nos.☐ the drawings, sheets/figs☐ the sequence listing (*specify*):☐ any table(s) related to the sequence listing (*specify*):4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).☐ the description, pages☐ the claims, Nos.☐ the drawings, sheets/figs☐ the sequence listing (*specify*):☐ any table(s) related to the sequence listing (*specify*):

* If item 4 applies, some or all of those sheets may be marked "superseded."

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims 1-51	YES
	Claims	NO
Inventive step (IS)	Claims 1-51	YES
	Claims	NO
Industrial applicability (IA)	Claims 1-51	YES
	Claims	NO

2. Citations and explanations (Rule 70.7)

CLAIMS 1-51

None of the citations in the search report, individually or in combination, disclose the features of the claims. Furthermore, none of the distinguishing features over prior art would either be obvious to a person skilled in the art or would merely amount to adding common general knowledge. The claims are, therefore, novel and inventive.

Box No. VII **Certain defects in the international application**

The following defects in the form or contents of the international application have been noted:

Independent claims 1, 26, 29, 35, 38, 48, 49 and 50 are still seen to be overly broad and speculative, and unsupported by the description. Pages 19-20 of the specification do describe alternatives to pressure-induced phase changes between relaxed amorphous silicon and crystalline silicon. However, these alternatives are presented in generic form only, and there is no enabling disclosure for these alternatives. Hence, there is effectively no support for the broad versions of the invention claimed, and it is still consider that the only described embodiment – that of pressure-induced phase changes between relaxed amorphous silicon and crystalline silicon – needs to be reflected in all claims.

Furthermore, independent claims 1 and 26 do not clearly define the nature of the information storage mechanism. While the manner of removal of the tip is essential to the phase change mechanism described, the prior application of pressure is also a necessity, and the information storage is therefore not seen to be enacted solely by the removal of the pressure.

Similarly, claims 37, 50 and 51 are not fully supported by the description, since they are not characterised by the controlled removal of pressure to create the claimed structures, a feature which (as discussed above) appears to be essential to the claimed invention. Claim 51 is particularly broad and speculative since it is not even limited to a memory device which is what the whole specification is dealing with.

Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

Between description (last page numbered 20) and claims (first page numbered 27) page numbers are lacking in continuity.